

of the variation of the seconds' pendulum with latitude was quite trustworthy enough (not to say correct enough) to furnish the geographical difference between London and Paris lengths. Yet as a fact the pendulum never was so appealed to. Yet to this day it is still not uncommonly taught that the pendulum is the proper *natural* standard of reference. In 1816 of course such was the nearly universal dogma.

I say "never," but perhaps one or other of the above observers may be adduced to confute me.

Collingwood, July 11

J. HERSCHEL

Faure's Secondary Battery

In your issue of last week you gave an account of the *soirée* held at King's College, London, on the evening of July 2, and in this account it is stated that "the great event of the evening was the exhibition for the first time in England of M. Faure's secondary battery."

At the *soirées* given by the Mayor of Nottingham on the evenings of June 30 and July 3 in connection with the opening of the College by H.R.H. Prince Leopold, I had the pleasure of exhibiting to large audiences one of M. Faure's new batteries. Sheets of lead were bent up into the form of shallow trays, one foot square and one inch deep; in each of these was placed a layer of red lead, then a layer of flannel, then a layer of red lead, and lastly another lead plate. These trays to the number of six were then piled one above the other, after being filled with dilute acid. The cells being connected in series, were polarised by a 10-cell battery of Grove's cells, and after twenty minutes' charging, had taken up a very large quantity of electricity. At a short lecture given during the evening the charged Faure battery was connected with a Gramme machine, and drove it round with considerable velocity for some minutes. After thus employing part of the charge the remainder was used for heating several inches of platinum wire, and for driving for a few seconds a simple form of magneto-electric engine. These experiments amply convinced those present of the practical character of M. Faure's invention. As I have not had the opportunity of examining one of the original batteries of the inventor, I was obliged to make up this experimental form. It is however a convenient form for lecture-room demonstration, as it permits the structure of the battery to be exhibited to an audience. The enormous superiority of M. Faure's cell over the old form of Planté cell is evident at once on experimenting with it. J. A. FLEMING

The University College, Nottingham, July 10

Earthquake in Van

SINCE my former letter I have had an opportunity of visiting the region most affected by the earthquake of May 30, and have obtained some further particulars about it. Its greatest severity seems to have been felt at the Armenian village of Teghourt, lying at the foot of the Nimroud Dagh, at a distance, judging by eye, of not more than four miles from the edge of the crater. This village has been almost entirely destroyed, with the loss of ninety-three lives. By the same shock about 200 houses were thrown down or more or less damaged in the aggregation of hamlets named Akhlat, some six or seven miles further distant from the Nimroud Dagh. Here however happily only two lives were lost and a few persons were injured. On June 9, in the evening, a second shock took place of less violence, which partially damaged a third village, Sipratzor, lying between the other two. As far as I was able to learn these villages were the only localities in which buildings were actually thrown down, though cracks were caused in walls, &c., in other places. The three villages are all in the direct line between the two great extinct volcanoes of the Nimroud Dagh and Sipan Dagh, which fact leads to the conjecture that there may be a line of least resistance joining the two mountains. All three villages, however, are nearer to Nimroud than to Sipan. The greater severity of the shock at Teghourt, the nearest village to Nimroud, may have been due to the latter having been the centre of the disturbance, but it may also have been caused by the fact that the village is built directly upon the solid rock of an ancient lava-bed. The only observation I was able to obtain of the direction of the earthquake wave was communicated to me at a village lying due east of the Nimroud Dagh. Here it was said that the wave came from the south, which would look as if the centre of disturbance were in the Central Kurdistan mountains, not in Nimroud; but one doubtful observation is of course not enough to establish such a point.

Whilst in the neighbourhood I took the opportunity of visiting the Nimroud Dagh. The mountain rises in a very gentle slope, so that it is possible to ride the whole way up and into the crater. The edge of the crater, where we crossed it, is 2810 feet above the Lake of Van by aneroid and about six miles distant from it; some parts of the walls however rise 500 feet or so higher, the most elevated points being to the north and south. The crater is a vast, nearly perfectly circular, hollow, between four and five miles across, the floor of which is an irregular flat dome, partly covered with herbage and partly with dwarf birch and beech and a creeping yew. Among the undulations of the dome, and especially in the depressed ring between the dome and the walls of the crater, are situated some six or seven tarns. One of these, on the margin of which we stopped to rest, is fed by hot springs, which bubble up at numerous points near its edge. I had no thermometer to ascertain the temperature of the water, but I found that one spring, which rose in a small basin almost cut off from the rest of the lake, was just about as hot as I could bear to keep my hand in. This tarn is 880 feet lower than the edge of the crater where we crossed it, this being the lowest point in the whole circuit. I saw no sign of vaporous exhalation, although local tradition has it that the mountain was active not more than four centuries ago; but time did not permit me to explore the whole of the great interior space.

EMILIUS CLAYTON

Van, Turkey-in-Asia, June 20

Meteors

SEVERAL splendid meteors having lately been visible, the following observations may be worthy of note in NATURE. I may add that the most brilliant meteor was the one recorded in your columns (vol. xxiv. p. 189).

June 24, 10h. 28m., a very large bright orange-coloured meteor equal to Jupiter appeared near Vega.

At 11h. 29m. a deep orange-coloured meteor, larger and brighter, than Jupiter, crossed the extremity of the comet's tail. It left a short bright streak.

June 25, 10h. 52m., a yellowish-white meteor, as bright as Vega, appeared near ζ Cygni.

At 12h. 4m. a white meteor, as bright as Jupiter, appeared just south of α Draconis, and after pursuing a wavy path, disappeared near γ Ursæ Majoris. It left a short streak.

July 3, 10h. 23m. a yellow meteor, nearly as bright as Jupiter, appeared just east of Polaris, travelled slowly in a wavy path, and disappeared north of β Cassiopei.

It will be observed that three out of these five meteors appeared in that part of the sky occupied by the comet, and also that two of them pursued wavy or zig-zag paths.

B. J. HOPKINS

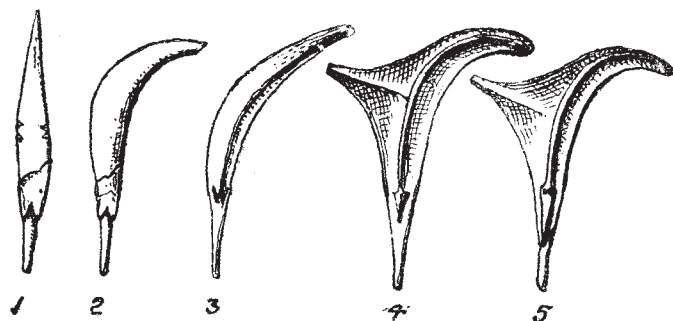
79, Marlborough Road, Dalston, E., July 5

The W-Pattern of Paddles

IN your impression of the 2nd ult. allusion is made to the origin of the W pattern which occurs upon paddles from the Solomon Isles. Without illustration it is difficult to understand the transitions which have taken place, but with the objects before you their history is easily read. I therefore inclose sketches; they are all from the same locality. In Fig. 1 it is seen that the swell of the blade of the paddle has suggested the idea of a fish's body, and accordingly the head with the mouth and eyes of a fish have been carved in their proper place. In Fig. 2 the same occurs, except that the blade is bent, probably to adapt the paddle to steering purposes, or for some other object. These two specimens represent the head of a fish in its realistic form. The progress of ornamentation is from realism to conventionalism. By comparing Fig. 3 with the foregoing it is easily seen that the W represents the mouth and sides of a fish's head reduced to straight lines, the eyes having disappeared. In all the specimens in my possession its position is always that in which the true fish's head occurs in the realistic specimens. In Fig. 4 a further change has taken place, the mouth is omitted, and the sides of the head have been brought together in a point, thus forming a simple triangle. Possibly the idea of a fish's head may have been altogether lost in this stage of the ornament, but in the next example, Fig. 5, the idea revives again, as so frequently happens in like cases, without recurring to the original model. Two eyes are seen to be inserted in the place where one occurred in the realistic specimens, the mouth still being deficient.

There can be little doubt, I think, that this interpretation

affords a true sequence of ideas that have taken place in the minds of the savages who made these things. And it is in complete analogy with the development of ornamentation in other places, of which several examples are in my museum. The interest which attaches to such specimens of savage art and ornament is purely psychological. Taken as the representatives of ideas, and arranged to show the development of ideas, they serve important purposes in the study of social evolution, ex-



plaining by analogy the law which has operated in producing many otherwise unaccountable conditions of custom, religion, or institutions, of which the successive phases of thought, having never been embodied in tangible forms or committed to writing, cannot be reproduced or arranged in their true order of succession. The sequence therefore is often lost, and wrong causes are assigned to them.

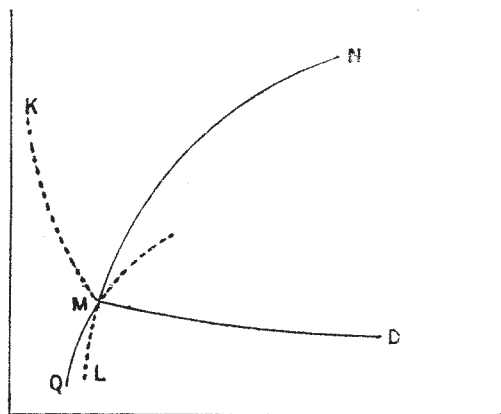
A. PITT RIVERS

Hot Ice

HAVING read a paper before the Owens College Chemical Society on January 21, in explanation of Dr. Carnelley's experiments, in which I treated the subject in a similar way to Dr. Pettersson, perhaps I may be allowed to point out one or two differences in my explanation from that given by Dr. Pettersson in NATURE, vol. xxiv. p. 176.

In the first place Dr. Pettersson speaks several times of the point m (the triple point) as being $0^{\circ}0078$ C. below zero, whereas it must be above, because the melting-point of ice rises as the pressure is diminished.

After describing the line mk , which I believed then to exist, and which will probably be found really to exist if ice can be



heated, Dr. Pettersson says that in the case of ordinary ice it has been proved that ice does not get hot, and that the limit of the ice-surface is along lm , a continuation of the water-steam line mn .

Now Prof. James Thomson describes m as the point of intersection of three different lines, nm , dm , and qm , the water-steam, water-ice, and ice-steam lines; mq being, not a continuation of nm , but a separate line, the difference in position being due of course to the latent heat.

I fail to see also how mk can be considered a continuation of dm , any than more of nm . Lastly, after denying the possibility

of ordinary ice becoming hot, Dr. Pettersson describes Dr. Carnelley's ice as condensed and not frozen. In those experiments of Dr. Carnelley's which I have seen, the water was frozen round the thermometer, and not condensed on it. The matter therefore seems to stand thus:—If the ice does really become hot, the limit of the ice-surface is most probably along mk , whereas if Mr. Hannay and others are correct in stating that the temperatures of the ice and condenser are identical, the limit must be along mq , and not along ml , which latter is the line denoting the maximum tension of the vapour of water cooled below the freezing point without solidifying, and not of ice below the freezing point.

I would just say also that the idea of an allotropic modification of ice did not occur to me.

SYDNEY YOUNG

The Owens College, Manchester

Note on *Piczorhynchus melanocephalus* (Ramsay), and *Ptilopus viridis* (Ramsay), from the Solomon Islands

HAVING lately received several specimens of the *Piczorhynchus*, which I described under the above name, I find that it is the young of Mr. Tristram's *P. vidua* (see *Proc. Linn. Soc. of New*

South Wales, vol. iv. p. 468) from the Solomon Islands. The white collar which commences on the nape is much broader in the young than in the adult, and the feathers of the chest are white, all margined conspicuously with black.

Specimens have been obtained on the island of "Ugi," one of the Solomon group.

I believe the fruit pigeon I determined as *Ptilopus viridis*, from the Solomon Islands, will prove to be the female of *Ptilopus argenia*, Gray, of which I have recently seen some fine specimens collected by the Rev. George Brown and Lieut. Richards, R.N., at "Ugi."

ED. P. RAMSAY

Anatomical Museum, Sydney, April

THE BRITISH MUSEUM CATALOGUE OF BIRDS¹

AS has been more than once remarked in our pages, it would require more than one man's lifetime to complete the Catalogue of Birds, if the rate at which the first four volumes were produced had to be continued. Mr. Bowdler Sharpe, who has written these first four volumes, was a young man when he commenced his task, but at the same rate of progress it would have required him to live nearly a hundred years to finish the Catalogue by himself. Dr. Günther has therefore had to seek assistance from outside the walls of the Museum, and has engaged the services of Mr. Seebohm to bring out the fifth volume of the Catalogue, which contains a description of the family *Turdidae*, containing the Thrushes and Warblers. As Mr. Seebohm has devoted several years to a study of this family, he possesses a special knowledge of his subject probably unequalled by any other ornithologist. It must be remembered that, as in the case of Dr. Günther's Catalogue of Fishes, the Catalogue of Birds is not a mere list of specimens in the national collection, but is in reality a monographic *résumé* of the birds of the world. If we look through the first four volumes of this laborious work we shall find that not only are the species in the British Museum thoroughly described, but that species not included in the collection of that institution are also treated of, and the types of rare birds in Continental museums are fully described; showing that Mr. Sharpe was not content to work solely with the collection under his charge, but that he has compared his notes with the specimens in many of the museums of Europe, and has therefore done his utmost to make the Catalogue in every way complete. But if this is true of the first volumes, it is ten times more so in the case of the fifth, which now lies before us. On turning over its pages we see that Mr. Seebohm has not only visited European museums, but has even

¹ Vol. V., Containing the Family *Turdidae*, by Henry Seebohm.